

## (12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization International Bureau



(43) International Publication Date  
27 January 2005 (27.01.2005)

PCT

(10) International Publication Number  
**WO 2005/007769 A1**

(51) International Patent Classification<sup>7</sup>: C09K 3/14, C01F 17/00, C09G 1/00, H01L 21/304

(21) International Application Number:  
PCT/JP2004/010592

(22) International Filing Date: 20 July 2004 (20.07.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
2003-198726 17 July 2003 (17.07.2003) JP  
60/489,919 25 July 2003 (25.07.2003) US

(71) Applicant (for all designated States except US): SHOWA DENKO K.K. [JP/JP]; 13-9, Shiba Daimon 1-chome, Minato-ku, Tokyo 1058518 (JP).

(72) Inventor; and

(75) Inventor/Applicant (for US only): MIZUKAMI, Hiroshi [JP/JP]; c/o Shiojiri Plant, Showa Denko K.K., 1, Oaza Soga, Shiojiri-shi, Nagano 3996461 (JP).

(74) Agents: AOKI, Atsushi et al.; A. Aoki, Ishida & Associates, Toranomon 37 Mori Bldg., 5-1, Toranomon 3-chome, Minato-ku, Tokyo 1058423 (JP).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

**Published:**

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

WO 2005/007769 A1

(54) Title: METHOD FOR SETTING FIRING TEMPERATURE OF CERIUM CARBONATE, METHOD FOR PRODUCING CERIUM OXIDE ABRASIVES AND CERIUM OXIDE ABRASIVES OBTAINED BY THE METHOD

(57) Abstract: A method for producing a cerium oxide abrasive, characterized in that the method comprises firing a raw material of cerium carbonate having a fluorine content F (ppm by mass) falling within a range of 10 to 500 ppm by mass, at a firing temperature T (°C) selected within a temperature range defined by the following formula:  $730 - 14[\log(F)] \leq T \leq 790 - 10[\log(F)]$ .